<u>REMARKS</u>

The present application was filed on April 6, 2000 with claims 1-91. In the outstanding final Office Action, the Examiner has: (i) maintained the rejection of claims 1-12, 29, 34, 36-56, 73, 78, 80-87, 90 and 91 under 35 U.S.C. §102(e) as being anticipated by U.S. Patent No. 6,088,675 to MacKenty et al. (hereinafter "MacKenty"); (ii) maintained the rejection of claims 5 and 49 under 35 U.S.C. §103(a) as being unpatentable over MacKenty in view of "New VXML Forum," posted at Cover Pages Hosted by Oasis (hereinafter "New VXML Forum"); (iii) maintained the rejection of claims 13-28 and 57-72 under 35 U.S.C. §103(a) as being unpatentable over MacKenty in view of U.S. Patent No. 6,269,336 to Ladd et al. (hereinafter "Ladd"); (iv) maintained the rejection of claims 31, 32, 75 and 76 under 35 U.S.C. §103(a) as being unpatentable over MacKenty in view of U.S. Patent No. 6,569,207 to Sundarsesan (hereinafter "Sundarsesan"); (v) maintained the rejection of claims 30 and 74 under 35 U.S.C. §103(a) as being unpatentable over MacKenty in view of World Wide Web Consortium document entitled "Extensible Stylesheet Language (XSL) version 1.0" (hereinafter referred to as "W3C XSL specification"); (vi) maintained the rejection of claims 33, 77, and 88 under 35 U.S.C. §103(a) as being unpatentable over MacKenty in view of U.S. Patent No. 6,493,758 to McLain (hereinafter "McLain"); and (vii) maintained the rejection of claims 35, 79, and 89 under 35 U.S.C. 103(a) as being unpatentable over MacKenty in view of U.S. Patent No. 6,456,974 to Baker et al. (hereinafter "Baker").

In this response, Applicants: (i) respectfully reassert their traversal of the various §102 and §103 rejections of claims 1-91 for at least the following reasons; and (ii) file a Notice of Appeal concurrent herewith.

Regarding the §102(e) rejections of claims 1-12, 29, 34, 36-56, 73, 78, 80-87, 90 and 91, Applicants reassert that MacKenty fails to teach or suggest all of the limitations in said claims for at least the reasons presented below. Applicants will reiterate their remarks from their previous response dated August 9, 2004 (Section I below), followed by remarks addressing the section in the final Office Action entitled "Response to Arguments" (Section II below).

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I. It is well-established law that a claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference. *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 U.S.P.Q.2d 1051, 1053 (Fed. Cir. 1987). Applicants reassert that the rejection based on MacKenty does not meet this basic legal requirement, as will be explained below.

The present invention, for example, as recited in amended independent claim 1, recites a method of generating an application accessible by a user through one or more computer-based devices, comprising the following steps. Interactions that the user is permitted to have with the one or more computer-based devices used to access the application are represented by interaction-based programming components. The interaction-based programming components are <u>independent of content/application logic and presentation requirements</u> associated with the application. Further, the interaction-based programming components may be transcoded on a component by component basis to <u>generate one or more modality-specific renderings of the application renderable in accordance with one or more modality-specific browsers associated with the one or more computer-based devices, such that the interaction-based programming components are independent of any modality and any modality-specific browser</u>. The application is then authored using at least a portion of the interaction-based programming components. Independent claim 91 recites similar limitations in an article of manufacture format. Independent claims 44 and 90 recite respective apparatus for accessing applications having similar limitations.

As explained in the present specification at page 6, line 26, through page 7, line 6, the invention defines a new application programming paradigm. As mentioned in the background section of the present specification, existing application authoring approaches have adopted the concept of separating the content based aspects of an application from the presentation based aspects. In accordance with the present invention, a new paradigm is introduced, illustratively embodied as a Conversational Markup Language (CML), which provides for separating application programming into content aspects, presentation aspects and interaction aspects. By focusing on the interaction aspect of an application with respect to a user, an application may be written in a manner which is independent of the content/application logic and presentation. The "interaction-based programming

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components" recited in independent claims 1, 44, 90 and 91 provide such advantages since, as expressly recited, they are <u>independent of content/application logic and presentation requirements</u> associated with the application and they may be transcoded on a component by component basis to <u>generate one or more modality-specific renderings of the application renderable in accordance with</u> <u>one or more modality-specific browsers associated with the one or more computer-based devices,</u> <u>such that the interaction-based programming components are independent of any modality and any</u> <u>modality-specific browser.</u> Examples of such presentation requirements and modality-specific renderings include visual-based (e.g., text and graphical) renderings, speech based renderings, and combinations thereof.

Thus, as further explained in the present specification, at pages 7 and 8, in accordance with the invention, a device operating with downloaded CML code can transcode to, for example, HTML and VoiceXML, substantially simultaneously so as to synchronize the multiple browsers providing the user with access to information. Such advantageous synchronization according to the invention is possible because the transcoding is done gesture by gesture with gesture identification. Thus, when an input/output event occurs in one modality, the browser knows what event occurred for what gesture and can immediately update all the supported modalities. This results in a very tight synchronization across modalities. Such synchronization is also achieved due to the fact that the various modality-specific user interface dialogues, e.g., associated with a graphical user interface (GUI) browser or a speech browser, are generated from a single CML representation, on a gesture by gesture basis. Thus, the multiple user interfaces, e.g., GUI, speech, etc., are synchronized and continuously updated as a user interactively proceeds with one or the other modality.

MacKenty is significantly different than the claimed invention. MacKenty discloses at column 2, lines 10-17:

> The present invention works with a browser utility, that is, an application for visually displaying SGML documents, to present SGML documents to computer users auditorially, instead of visually. It parses SGML documents, associates the markup and content with various elements of an auditory display, and uses a combination of machine-generated speech and non-speech sounds to represent the documents auditorially to a user. Synthetic speech is used to read the text content aloud, and non-speech sounds to represent features of the

document indicated by the markup. For example, headings, lists, and hypertext links can each be represented by distinct non-speech sounds that inform the user that the speech they are hearing is part of a header, list or hypertext link, respectively. Thus, an SGML page can be read aloud using a speech synthesis device, while embedded SGML tags are simultaneously, or substantially simultaneously, displayed auditorially using non-speech sounds to indicate the presence of special text.

Thus, the MacKenty system inputs an SGML document which, as disclosed at column 1, lines 11-20 of MacKenty, may typically be a Hypertext Markup Language (HTML) document, and presents the document to a visually-impaired user auditorially. Therefore, since an application in MacKenty is authored in HTML or some other common SGML format (XML, DOCBOOK, etc.), such markup language embodies the conventional programming paradigm employed by existing applications. However, in accordance with the claimed invention, application programming is advantageously separated into content aspects, presentation aspects and interaction aspects. Thus, as independent claims 1, 44, 90 and 91 recite, the invention provides for representing interactions that the user is permitted to have with the one or more computer-based devices used to access the application by interaction-based programming components, wherein the interaction-based programming components are independent of content/application logic and presentation requirements associated with the application. SGML documents are not comprised of components that are independent of content/application logic and presentation requirements associated with the application.

Further, since an application in MacKenty is authored in HTML or some other SGML format (XML, DOCBOOK, etc.), such markup language is not independent of any modality and any modality-specific browser, as recited in the claimed invention. The fact that MacKenty outputs an SGML document auditorially in no way anticipates the above-cited claim language. In fact, such an operation further strengthens the argument that MacKenty fails to disclose the claimed feature of transcoding components on a component by component basis to generate one or more modality-specific renderings of the application renderable in accordance with one or more modality-specific browsers associated with the one or more computer-based devices, such that the interaction-based programming components are independent of any modality and any modality-specific browser.

Still further, an SGML document contains elements that are intended to be rendered in only

one modality, e.g., HTML elements are visually rendered. The fact that the SGML document is processed by a "sonification engine" in order to present the document auditorially to a visually-impaired user clearly does not teach or suggest the claimed step of representing interactions that the user is permitted to have with one or more computer-based devices used to access the application by interaction-based programming components, wherein the interaction-based programming components are independent of content/application logic and presentation requirements associated with the application. That is, while the SGML document is subsequently presented auditorially rather than visually, the document is still authored in a manner that is intended to be rendered visually and, therefore, unlike the claimed invention, is in fact <u>dependent</u> on content/application logic and presentation requirements.

For at least the above reasons, Applicants reassert that independent claims 1, 44, 90 and 91 are patentable over MacKenty. Further, Applicants reassert that dependent claims 2-12, 29, 34, 36-43, 45-56, 73, 78 and 80-87 are patentable over MacKenty not only because they respectively depend from independent claims 1 and 44, but also because said claims recite patentable subject matter in their own right. Accordingly, withdrawal of the §102(e) rejections is respectfully requested.

Regarding the §103(a) rejections of claims 13-28, 30-33, 35, 57-72, 74-77, 79, 88 and 89 under 35 U.S.C. §103(a) based on various combinations of MacKenty, the New VXML Forum, Ladd, Sundarsesan, the W3C XSL specification, McLain and Baker, Applicants reassert that said claims are patentable over the various combinations not only because they respectively depend from independent claims 1 and 44, but also because said claims recite patentable subject matter in their own right. The New VXML Forum, Ladd, Sundarsesan, the W3C XSL specification, McLain and Baker fail to remedy the deficiencies of MacKenty presented above. Accordingly, withdrawal of the §103(a) rejections is respectfully requested.

II. Turning now to the "Response to Arguments" section of the final Office Action, the Examiner states (on page 4) that "[t]hough HTML may only be intended to be rendered visually, MacKenty shows that it can be rendered sonically too, thus making it independent of any modality."

First, to reiterate, independent claim 1 recites a method of generating an application accessible by a user through one or more computer-based devices, comprising the steps of representing interactions that the user is permitted to have with the one or more computer-based devices used to access the application by interaction-based programming components, wherein the interaction-based programming components are independent of content/application logic and presentation requirements associated with the application, and further wherein the interaction-based programming components may be transcoded on a component by component basis to generate one or more modality-specific renderings of the application renderable in accordance with one or more modality-specific browsers associated with the one or more computer-based devices, such that the interaction-based programming components are independent of any modality and any modality-specific browser, and authoring the application using at least a portion of the interaction-based programming components.

That is, as claimed, the application is <u>authored</u> using interaction-based programming components which are independent of content/application logic and presentation requirements associated with the application . . . and independent of any modality and any modality-specific browser. Thus, the application itself is independent of content/application logic and presentation requirements associated with the application . . . and independent of any modality and any modality-specific browser.
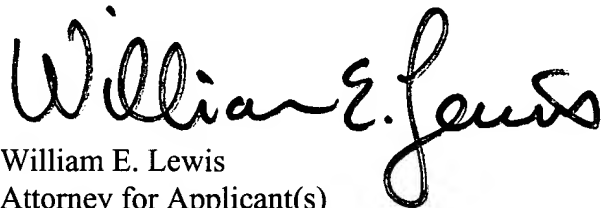
In comparison, an application or document authored in any SGML format (e.g., HTML) is not itself independent of content/application logic and presentation requirements associated with the application . . . and independent of any modality and any modality-specific browser. It is authored in a manner that is dependent on content/application logic, presentation requirements, and a specific modality, e.g., in the case of HTML, for a visual-modality. Thus, documents disclosed in MacKenty are not authored such that they are independent of content/application logic and presentation requirements, modality-independent, or modality-specific browser-independent, as the claimed invention requires.

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Second, as previously explained, a process that discloses taking a document authored for a visual-modality and processing it using a "sonification engine" in order to present the document auditorially to a visually-impaired user, such as disclosed in MacKenty, clearly does not teach or suggest the claimed step of representing interactions that the user is permitted to have with one or more computer-based devices used to access the application by interaction-based programming components, wherein the interaction-based programming components are independent of content/application logic and presentation requirements associated with the application . . . and independent of any modality and any modality-specific browser. It is respectfully asserted that the final Office Action seems to be confusing the process of "authoring" and the process of "rendering."

Furthermore, suggestions are given in the final Office Action "to differentiate the claims from the prior art." However, Applicants respectfully reassert that they are entitled to at least the scope of the pending claims and, thus, the pending claims are already patentably distinct.

In view of the above, Applicants believe that claims 1-91 are in condition for allowance, and respectfully request favorable reconsideration.

Respectfully submitted,

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